

REMARKS/ARGUMENTS

Claims 1-20 remain pending in the present application, claims 21-64 having been withdrawn from consideration as being non-elected in response to a election/restriction requirement. To expedite prosecution of the present application, claims 21-64 have been cancelled herein, without prejudice to reassert those claims in further continuing application(s) filed during the pendency of the present application.

Affirmation of Election/Restriction Requirement

Applicants hereby affirm their previous provisional election, with traverse, of Group I claims 1-20, which define a method of embossing expanded graphite sheet material (classified in class 264, subclass 102), for prosecution on the merits of the present application. Applicants continue to reserve the right to pursue non-elected Group II claims 21-64, which are drawn to an apparatus for embossing sheet material (classified in class 425, subclass 385), in separate continuing application(s) filed during the pendency of the present application. Applicants further reserve the right to request, upon completion of prosecution on the merits of elected claims 1-20, reconsideration of the withdrawal of claims 21-64 from the present application, should the basis of their traversal of the election/restriction requirement be established, namely, that apparatus claims 21-64 are sufficiently related in technical subject matter to method claims 1-20 that all of the claims could and should be examined together.

Amendments to the Specification

As to the objection to the specification set forth in paragraph 3 of the November 5, 2003 Office Action, the Abstract has been amended by deleting all but the first sentence, thereby bringing its length to under 150 words while still complying with the other requirements for the abstract set forth in that paragraph.

Provisional Double Patenting Rejection of Claims 1-11 under 35 U.S.C. §101

The November 5, 2003 Office Action contained a provisional "same invention" type double patenting rejection of claims 1-11 in view of the claims of copending U.S. Patent Application Serial No. 10/273,703, which is commonly-owned by the assignee of the present application. The Office Action also contained separate provisional obviousness-type double patenting rejections of claim 12, claims 13-19, and claim 20, in view of the '703 application. The '703 application has been expressly abandoned concurrently herewith, thereby obviating the double patenting rejections as to all of claims 1-20.

Obviousness Rejection of Claims 1, 5-11 and 13-19 under 35 U.S.C. §103(a)

Claims 1, 5-11 and 13-19 stand rejected under 35 U.S.C. §103(a) for obviousness in view of the combination of Japanese Patent Publication No. 10-040937 (Seiji) with Cobb U.S. Patent No. 4,676,515. Applicants submit that neither of Seiji and Cobb, either alone or in proper combination, can render obvious any of claims 1, 5-11 and 13-19 because their disclosures, even when combined, do not disclose or suggest the applicants' claimed method of embossing expanded graphite sheet *after* it has already been formed, as opposed to forming a

compression molded graphite sheet from a powder *precursor* of expanded graphite.

As acknowledged in the Office Action, Seiji does not disclose embossing expanded graphite sheet material, but instead discloses a method of manufacturing a collector for a fuel cell comprising compression molding thermally expansive graphite *powder* under reduced pressure. Applicants submit that the embossing of expanded graphite sheet material involves manipulative steps that are very different from the compression molding of powder materials. Although the compression molding of powders under reduced pressure may be commonplace, that technique is irrelevant to the patentability of the applicants' claims here. In this regard, expanded graphite sheet material is *itself* a compression molded material, as disclosed in Mercuri U.S. Patent No. 5,885,728, which is referred to at page 10, line 29 of the applicants' specification (paragraph [0041] of corresponding U.S. Patent Application Publication No. 20010039701). The Mercuri patent, in turn, discloses expanded graphite sheet material as a compression molded material:

Expanded, i.e. exfoliated graphite may be ***compressed*** into thin sheets (hereinafter referred as flexible graphite "foil") with a density approaching theoretical density, although a density of about 10 to 85 lbs./ft.³ is suitable for most applications, including ***compression into shapes*** suitable as seal rings in engine exhaust and other applications.

(Column 1, lines 14-27; see also column 1, lines 28-66). The expanded graphite sheet material initially employed in the applicants' claimed method is thus a *pre-*

compressed sheet material that can later be "compressed into shapes", as disclosed in Mercuri.

Returning to Seiji, there is no teaching or suggestion in Seiji that graphite sheet material can be embossed after it is formed. In fact, Seiji *teaches away* from the applicants' claimed embossing method in that Seiji's forms his fuel cell current collector from a graphite powder *precursor* of expanded graphite, and *not* by embossing an expanded graphite sheet *after* it has already been formed.

The above-noted deficiencies in Seiji are not overcome by Cobb. Cobb discloses a composite embossed sandwich gasket that includes a graphite layer. Cobb's gasket comprises an assembly of embossed metallic layers and an interposed layer of compressed expanded graphite. Cobb states that "[t]he assembly is then compressed sufficiently to assume the configuration as shown in FIG. 2, *but without substantial compression of the expanded graphite layer*" (column 2, lines 43–46; emphasis added). This explicit teaching of Cobb directly contradicts the assertion in the Office Action that the act of compressing the graphite layer between the embossed metallic layers "would effectively emboss the graphite layer." Cobb contains no disclosure or suggestion of embossing expanded graphite sheet material, but instead *teaches away* from doing so, as established in the foregoing quotation from Cobb.

Furthermore, neither of Seiji and Cobb provides any motivation to combine their teachings, as suggested in the Office Action. In this regard, neither of Seiji and Cobb teaches or suggests the problem identified in the present application, namely, the tendency of expanded graphite sheet material to resist fluid flow in the "z direction", presumably due to the anisotropy of the sheet material, as set out in the applicants' specification at page 11, line 2 – page 12, line 2 (paragraph [0042]

in the corresponding patent application publication). Applicants submit that the only motivation to combine Seiji and Cobb in the manner suggested in the Office Action comes from the applicants' specification, and to so combine the references is to employ impermissible hindsight.

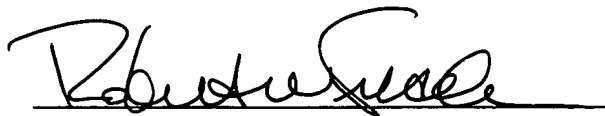
Applicants therefore submit that the teachings of Seiji and Cobb cannot properly be combined and, even if combined in the manner suggested in the Office Action, their combined teachings would still fail to satisfy the limitations of the applicants' claims, which define the embossing of pre-formed expanded graphite sheet material.

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In view of the foregoing remarks, applicants submit that claims 1-20 are allowable. The Examiner is invited to telephone the applicants' undersigned attorney at (312) 775-8123 if any unresolved matters remain.

A Petition for One-Month Extension of Time accompanies this Amendment and Request for Reconsideration, along with a check to cover the fee for extension within the first month. Please charge any additional fees, and credit any overpayment, incurred in connection with this submission to Deposit Account No. 13-0017.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert W. Fieseler", written over a horizontal line.

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